CLAIMS

1. A method for forming a transparent inter-metal dielectric in a CMOS image sensor comprising:

forming a base SiO_2 layer,

forming a flowlayer on the base SiO_2 layer by reacting SiH_4 and H_2O_2, and

forming a cap SiO_2 layer on the flowlayer,

wherein forming the flowlayer includes using a shortened H_2O_2 stabilization time in the range of 30 seconds to approximately 50 seconds.

2. The method according to Claim 1, wherein the shortened H_2O_2 stabilization time is approximately 50 seconds.

3. The method according to Claim 1, wherein forming the flowlayer further comprises using an H_2O_2 deposition pressure in the range of 400 mTorr to approximately 600 mTorr.

4. The method according to Claim 2, wherein forming the flowlayer further comprises using an H_2O_2 deposition pressure of approximately 500 mTorr.

5. The method according to Claim 1, wherein forming the flowlayer further comprises maintaining the reaction chamber platen at a target value in the range of 0.5 to 3°C.

6. The method according to Claim 2, wherein forming the flowlayer further comprises maintaining the reaction chamber platen at a target value of approximately 1°C.

7. The method according to Claim 3, wherein forming the flowlayer further comprises maintaining the reaction chamber platen at a target value in the range of 0.5 to 3°C.

8. The method according to Claim 3, wherein forming the flowlayer further comprises maintaining the reaction chamber platen at a target value of approximately 1°C.

9. A method for forming a transparent inter-metal dielectric in a CMOS image sensor comprising:

forming a base SiO_2 layer,

forming a flowlayer on the base SiO_2 layer by reacting SiH_4 and H_2O_2, and

forming a cap SiO_2 layer on the flowlayer,

wherein forming the flowlayer includes using an H_2O_2 deposition pressure in the range of 400 mTorr to approximately 600 mTorr.

10. The method according to Claim 9, wherein the H_2O_2 deposition pressure is approximately 500 mTorr.

11. The method according to Claim 9, wherein forming the flowlayer further comprises maintaining the reaction chamber platen at a target value in the range of 0.5 to 3°C.

12. The method according to Claim 10, wherein forming the flowlayer further comprises maintaining the reaction chamber platen at a target value of approximately 1°C.

13. A method for forming a transparent inter-metal dielectric in a CMOS image sensor comprising:

mounting a substrate on a platen in a reaction chamber,

forming a base SiO_2 layer over the substrate,

forming a flowlayer on the base SiO_2 layer by reacting SiH_4 and H_2O_2, and

forming a cap SiO_2 layer on the flowlayer,

wherein forming the flowlayer includes maintaining the reaction chamber platen at a target value in the range of 0.5 to 3°C.

14. The method according to Claim 3, wherein the target value is approximately 1°C.